

Amendment under 37 C.F.R. § 1.111  
U.S. Application No. 10/036,391

**AMENDMENTS TO THE DRAWINGS**

Applicant submits herewith one replacement sheet of formal drawings.

Attachment: 1 Replacement Sheet

**REMARKS**

Claims 1-6 have been examined and have been rejected under 35 U.S.C. § 103(a).

**I. Preliminary Matters**

The Examiner has objected to the drawings. In particular, the Examiner maintains that the symbol used for the converter 4 in Figure 2 is the same symbol as used for the multipliers 5, 6, 9 and 10 in Figure 3. Accordingly, Applicant has amended Figure 2 such that the converter and the multipliers are not represented by the same symbol, and thus, respectfully requests the Examiner to withdraw the objection.

Also, the Examiner has objected to the title as not being descriptive of the invention to which the claims are directed. Accordingly, Applicant has amended the title in a manner believed to overcome the objection. Applicant submits that the title should not be used to narrow the scope of the claims. If the Examiner believes the amended title to be unsatisfactory, Applicant respectfully requests the Examiner to suggest an acceptable amendment.

Applicant has herein editorially amended claims 1-6. The amendments to claims 1-6 were made for reasons of precision of language and do not narrow the literal scope of the claims. Further, the amendments were not made in view of the prior art.

**II. Rejections under 35 U.S.C. § 103(a) in view of U.S. Patent No. 4,339,824 to Tanimoto in view of Haykin (“Haykin”)(Communication Systems, Simon Haykin, 3<sup>rd</sup> Edition, 1994).**

The Examiner has rejected claims 1 and 2 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimoto in view of Haykin.

**A. Claim 1**

Applicant submits that claim 1 is patentable over the cited references. For example, claim 1 recites that signals are fed to two separate paths, a delay path and a path fitted with a filter, where the filter is a wideband bandpass filter with a relative bandwidth of 0.2 % to 0.4 % of the bit timing of the transmitted signals. A transient recovery time of the wideband bandpass filter is less than a time by which the signals are delayed on the delay path. In turn, the time by which the signals are delayed on the delay path is less than a decay time of the wideband bandpass filter.

The Examiner maintains that Tanimoto discloses every feature recited in claim 1 except for the specific properties of the claimed filter. Figure 5 of Tanimoto discloses that a signal is split via splitter 21 into two paths, one path leading to the wide bandpass filter 22 and one path leading to the narrow bandpass filter 23. Accordingly, Applicant assumes the Examiner maintains that the path leading to the narrow bandpass filter 23 discloses the claimed delay path. However, Tanimoto fails to teach or suggest that signals on the narrow bandpass filter path will be delayed such that the delay time is less than a decay time of the wide bandpass filter 22, or

that the delay time will be greater than a transient recovery time of the wide bandpass filter 22, as recited in claim 1.

Further to the above, and since Tanimoto fails to teach the specific properties of the claimed filter, the Examiner cites to Haykin. The Examiner maintains that Haykin teaches that a range of 0.2% to 0.4% can be easily achieved by adjusting the wideband filter for a given bandpass range. However, the cited portion of Haykin, i.e., page 50, merely discusses a time-bandwidth product and a calculation thereof. In particular, the reference teaches,

“if the duration of a pulse signal is decreased by reducing the time scale by a factor  $a$ , the frequency scale of the signal's spectrum, and therefore the bandwidth of the signal, is increased by the same factor  $a$ , by virtue of Property 2 (time scaling), and the time-bandwidth product of the signal is thereby maintained constant.”

While this passage does teach that the bandwidth of a signal can be changed by changing the pulse duration, there are no examples or specific disclosure of the bandwidth range recited in claim 1 (i.e., 0.2% to 0.4%), or that such range would be desirable.

Further, the Examiner's alleged motivation for modifying Tanimoto with Haykin is to provide Tanimoto, “with a burst mode operation resulting in an efficient transmission system” (page 4 of Office Action). Based on the limited teachings in page 50 of Haykin, Applicant submits that the alleged motivation is without merit. No relation has been provided between the time-bandwidth product defined in Haykin and the clock recovery circuit taught in Tanimoto.

Finally, as set forth above, claim 1 recites that the transient recovery time of the wide band bandpass filter is less than the time by which the signals are delayed on the delay path, and

the time by which the signals are delayed on the delay path is in turn less than the decay time of the wide band bandpass filter. Applicant submits that Haykin fails to cure this deficient teaching of Tanimoto. If, however, the rejection of claim 1 is to be maintained, Applicant respectfully requests the Examiner to indicate where the claimed comparisons are taught or suggested in the references.

In view of the above, Applicant submits that claim 1 is patentable over the cited references and respectfully requests the Examiner to reconsider and withdraw the rejection.

**B. Claim 2**

Since claim 2 is dependent upon claim 1, Applicant submits that such claim is patentable at least by virtue of its dependency.

**III. Rejections under 35 U.S.C. § 103(a) in view of Tanimoto, Haykin and U.S. Patent No. 5,577,056 to Malik ("Malik")**

The Examiner has rejected claims 3 and 4 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimoto, Haykin and Malik. However, since claims 3 and 4 are dependent upon claim 1, and Malik fails to cure the deficient teachings of Tanimoto and Haykin, in regard to claim 1, Applicant submits that claims 3 and 4 are patentable at least by virtue of their dependency.

**III. Rejection under 35 U.S.C. § 103(a) in view of Tanimoto, Haykin and U.S. Patent No. 4,025,720 to Pachynski ("Pachynski")**

The Examiner has rejected claim 5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimoto, Haykin and Pachynski. However, since claim 5 is dependent upon claim 1, and Pachynski fails to cure the deficient teachings of Tanimoto and Haykin, in regard to claim 1, Applicant submits that claim 5 is patentable at least by virtue of its dependency.

**IV. Rejection under 35 U.S.C. § 103(a) in view of Tanimoto in view of EP 0854379 to Kim ("Kim")**

The Examiner has rejected claim 6 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tanimoto and Kim.

In particular, the Examiner maintains that Tanimoto discloses every feature of the claim except that the signal is an optical signal (pg. 6 of Office Action). However, on page 4 of the Office Action and in regard to claim 1, the Examiner acknowledges that Tanimoto fails to disclose the specific details of the bandpass filter. Since the features of the bandpass filter of claim 6 are analogous to the features of the bandpass filter of claim 1, and Kim fails to cure the deficient teachings of Tanimoto in this regard, Applicant submits that claim 6 is patentable over the cited references.

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**V. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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